

## H<sub>2</sub>ow low can you go?!

water droplet: <http://faitc.org/wp-content/uploads/2013/08/Water-Droplet.jpg>

### **Value Proposition (1 sentence):**

We aim to provide a means of accurately tracking water usage on personal and aggregate levels, as well as a source of external motivation to conserve.

### **Problem & Solution Overview (short paragraph):**

Currently, very few people have systems in place to track water usage. At this time, there is no easy or convenient way to collect this information. As a consequence of this, most people have no concept of how much water they use, or where it is used, and therefore have no motivation to track or reduce use. Even for those who are interested in saving water, there are no concrete implementations to feasibly and easily facilitate this, because people cannot even definitively determine their main source of water use.

To combat this void in available technology, our group proposes a vision of a comprehensive, in-residence system that 1) automatically tracks water use and sends data to our app, 2) allows users to set personal and residence goals, and 3) allows users to see their performance compared to that of others (by location or demographic), which would hopefully create a competitive backdrop for conservation motivation that may even encourage those who might not have cared without these added incentives.

### **Contextual Inquiry Customers: (¾ page)**

1) Name: Brian T.

Age: college junior

Occupation: Stanford student

How recruited: friend from school

Brian lives in a smaller group home on campus. His athletic lifestyle makes him an interesting interview subject since that equates to more showers and more laundry. After learning about his shower habits and awareness of water usage, we assessed that Brian seems to have a roughly accurate estimate of how much water showering uses, and ranks showering as his biggest source of water use. In general, Brian believes he has pretty responsible water habits, stating that he usually only uses what he needs, and that he thinks he uses less than his peers. Sometimes, though, his shower water use spikes when he shaves in the shower; he approximates that he does this about 20% of the times he showers, and that it about doubles his shower time! When asked what it would take to get him to change his overall water use, he said it would take “a lot. Like a personal rewards system. Just hearing facts about how much water a shorter shower would save doesn’t make me change anything.”

2) Name: Tommy F.

Age: college sophomore

Occupation: Stanford student

How recruited: friend from school

Tom was interviewed to represent an average member of the university student population living in school dormitories with shared bathrooms. Tommy is aware that water conservation is important, especially during extreme drought, but feels no motivation to actively conserve water. He attributes his apathy to the dilution of responsibility among the millions of people that draw from the same water source and also to his belief that he already uses less water than the average American. According to Tommy, the lack of water usage supervision and financial motivation lead to the misuse of water.

3) Name: Alex R.

Age: college senior

Occupation: Stanford student

How recruited: friend from school

He belongs to the Stanford student cohort and is living in a house of 55. But because Alex states that his habits do not change depending on whether he is at school or at home, he can also be viewed as a resident of LA. He reports that water conservation is a much bigger topic at Stanford than it is in LA. He believes that cohabitation plays a

big factor in this. At home, people's water use is a much more private affair than it is on a college campus. He partly attributes the difference in culture to this visibility and the accountability that comes with it. He is an engineering major and was able to accurately estimate a shower's rate of water consumption at ca. 10 gallons / minute. Alex states his reasons for neglecting to track water use or actively aim to use less; his reasons include lack of significant financial gain and the lack of responsibility for use. He is interested in saving water, but does not actively engage in it because the right incentives are lacking.

4) Name: Ye L.

Age: early to mid 20s

Occupation: Software Engineer at Facebook

How recruited: friend from internship at Microsoft

Ye L. lives in a house in Palo Alto with 4 other young professionals in the tech industry. He was chosen because he can represent a non-student population, while still being closer in mindset since he is only a few years out of school. In addition, for some variety, he was interviewed while cooking, to understand his mindset on water usage while preparing/cooking food and washing dishes. He and his roommates expressed little concern about water usage, usually running the water during the entire time while washing dishes because they actually don't pay the water bills. In fact, their landlord has a very expensive garden and in order to ensure that they will help him keep it well-watered, he covers the water bills. They all pointed out that they usually don't think about water while cooking and once that was on their mind, noticed much more how many times they needed to wash their hands (the priority being keeping the kitchen/food clean rather than saving water). When timed, Ye estimated that he took 30 seconds to wash his hands when it took closer to 1:20 min. Towards the end of cooking, they did acknowledge feeling somewhat more self-conscious and were more careful about turning off the water, suggesting that some of this behavior isn't because they don't care, but because they don't notice. They did have some water efficient habits, such as not using the dishwasher and sometimes not washing the pan between usages, but mostly for convenience and not with the purpose of conserving water.

#### **Contextual Inquiry Results (1-¼ pages):**

Since our group is very interested in a set of tasks that are not regularly performed by people (foremost being consumption monitoring and analyzation), we had to adapt our interviews accordingly. Therefore, we made the goal of our interviews to collect information about the water use of individuals and examine why the widespread lack of task completion exists.

We were initially interested in implementing a system that would quietly permeate one's residence to collect water data. This led us to choose interviewees in a variety of living conditions, from single graduate students living in small group homes (where tenants pay their own water and utility bills) to undergraduate students living in moderate-sized homes (a few dozen or more people) and large-scale dormitories (hundreds of residents).

Since our main tasks of interest were not already being completed by people, including our interviewees, we instead changed our inquiry tactics and catered our interviews in order to gather information about water use habits, and also assess the interviewees' opinions on their water use and on water consumption in general. For instance, Tommy F. grossly underestimated the amount of water his shower used (he said 5 gallons), but also underestimated the time he was in the shower (he said 10 minutes).



Ye L. and his roommates never really thought about water usage while cooking, when in fact in total, it resulted in several minutes of running water per person since they tend to cook separately.



From our interviews, we found two common threads: 1) All of the individuals we interviewed feel that their level of water use is below average, 2) They each said that they felt no intrinsic motivation for reducing their use, and 3) They rarely noticed/paid much attention to their daily water usage.

This led us to see some of the holes in the existing technology for tracking water use. First, there is no way to know how your water use compares to others in your area or living situation. National “averages” are available from the census and other national polls, but not everyone has the same average. Families with children have different water needs than single adults who spend most of the day in the office, for example.

Second, there are many factors that *prevent* people from *actively* wanting to save water. One of these is the cheap and plentiful quantities at which water is available in America. Moreover, disregarding the price of water, many of our interviewees do not even pay their own water/utility bills, so there is no motivation to conserve stemming from saving a few pennies a month — in America, 1,000 gallons are available for only a few dollars (<http://www.circleofblue.org/waternews/2010/world/the-price-of-water-a-comparison-of-water-rates-usage-in-30-u-s-cities/>).

Another factor that we heard from a couple of our interviewees is the anonymity of responsibility for use. Since everyone uses water, and there is no information (besides your personal utility bill) about who uses how much, there is no motivation stemming from taking personal responsibility — “If excessive water use can’t be tracked back to me and it hardly costs anything, why shouldn’t I hand wash my car every weekend?”

*We concluded as a result of our contextual inquiry interviews, that there definitely is a sufficient market of consumers who would benefit from a water-tracking app. Many would improve their habits just with some regular reminders and more concrete information about their water consumption solely because they generally pay little attention when they are using water. With the added competitive social aspect and possibility of directly contributing to a charity, even those who mostly ignore water usage would feel incentivized to conserve.*

**Describe 3 best application ideas:**

1. Conservation competition (dorm, club, company, etc.): This is the idea we have decided to pursue, because we see competition as the type of motivation and incentive people would respond well to. Using background residential tracking (tracking adapter on the faucet or appliance), information would be displayed for individuals and in group settings (in dorms, breakrooms, etc.). We see this implementation as sensible because it has features to combat the two things that our research informed us were missing from current tracking technologies: Personal responsibility would be incorporated by tracking per-resident usage (and making it visible to other users), and motivation would be provided by desirable prizes and the inherent human desire to perform well and win. Also, it targets a perhaps new audience by providing alternate reasons for those apathetic to the conservation movement to participate (desirable prizes and personal responsibility).
2. Charity-partnership app: While water is plentiful and cheap in most areas of America, that is not the case in many developing countries. This idea would entail a system in which Americans reducing their water use would correspond to financial contributions (perhaps from corporate sponsors or the individuals themselves) to water-related charities in other places around the world (perhaps to build wells, or provide water-sterilizing kits).
3. Educational app: This idea consisted of an app that would provide users with many water use facts, like how many gallons are used per minute in the shower, or what the best times to water lawns are. It would also have functionality to browse articles related to everything water: usage, trends, legislature. If successful, this would educate the population about resource conservation and equip people to make smart decisions. However, one downfall we saw to this idea was that it would require a user's initiative to check and engage with the app.

	<b>significance of contribution</b>	<b>feasibility of implementation</b>	<b>perceived interest of public</b>
<b>competition</b>	medium - less long term significance if only for competition	high - would be easy to implement on a college campus between groups/dorms	high - students are competitive, especially if the prizes are good/of desire
<b>charity</b>	high - financial gains for charities	medium - might be harder to get the charity/sponsor involvement	high - most people like the idea of supporting worthwhile charities
<b>education</b>	high - underlying goal of app. long term behavioral change.	high - pop-ups with factlets at regular intervals.	low - requires user initiative to check and monitor

**Existing tasks our application enables:**

1. Simple (medium frequency): Learn tips for saving water  
 Information on saving water is available on the internet, but requires people to sift through lots of extraneous information. Educational apps require user initiative to check and explore. Our platform will suggest simple, personalized advice to users based on their usage patterns, in easy-to-see and hard-to-ignore ways. For example, a user who takes 20-minute showers will see tips on how to reduce his shower time by a few minutes.
  
2. Moderate (medium frequency): Look up past month's water bill  
 Utility bills are an existing log for water usage on a monthly basis, and still offer valuable information such as the amount spent on water. Currently, users can see their bill history by saving old bills, or perhaps logging into their city's online utility portal. With H<sub>2</sub>OW LOW, water bill data will be imported straight from the utility company and integrated into our app's functionality; the platform will allow users to see trends in their water usage throughout the different seasons of the year.
  
3. Complex (low frequency): Report Water Waste

Water waste can be found anywhere. Whether it's a leaky public water fountain or a sprinkler that aims directly onto the pavement, there are plenty of opportunities to conserve public water. Currently, people do not even know how to report these sources of waste, except perhaps by calling the city which is both time consuming and annoying. Our platform will allow users to easily log tickets based on GPS location to the public utility or city office so that a public employee can quickly locate and fix the problem.

### **New tasks application enables (2-3):**

1. Simple (constant frequency): track user water usage data and automatically load into the app from faucet/appliance adapters

With our integrated home collection system, users won't even have to think about entering data into the app. Everything will be conveniently available to view, analyze, moderate, and share.

2. Moderate (medium frequency): make conservation a competition.

If our system was implemented in a plethora of places, it would be extremely easy for neighborhoods or dorms to compete with each other, because activity and usage patterns could be shared by users. This is a facet of our application that we see as a large motivating factor (even for the initially uninterested crowd), especially if larger entities and sponsors (like Stanford University) become involved and offer prizes.

3. Complex (constant frequency): allow cities to collect data about population water use/areas of high consumption/etc. Currently, not all cities have the infrastructure or interest in collecting data use in their cities. With our systems installed in homes, cities could gather important public data (even if some users choose not to utilize our application for things such as goal-setting or competing).

### **7. Task Analysis Questions & Answers (2.5-3.5 pages)- [subsection for each question]**

- who will use our system?
  - The wonderful thing about our implementation is that we can envision everyone using our system, including those who currently don't have a lot of interest in tracking water use! It would be easy and convenient for solitary or group living environments, everything from houses to dorms. We believe our competition capability will draw in a much wider audience than the tracking system alone.
- what tasks do they perform, and what tasks are desired?
  - Our system would be ideal for tasks that users, right now, largely do not perform: evaluating personal water consumption/use,



moderating water use, and competing with others to have more conscientious habits. We believe it is important for individuals to be aware of what a good usage level is to keep our country at a sustainable level.

- How are tasks learned?

Currently, we see a lack of completion of tasks such as evaluating and monitoring water use. It is not necessarily because of a lack of interest; rather, many people feel the right kind of motivation is missing. With our system implemented, though, it would be extremely easy and intuitive for users to be coached (through positive reinforcement and concrete examples) into moderation, especially because all the data is automatically right at their fingertips!

- Where are the tasks performed?

As mentioned above, there is a serious lack of task completion in the field of water tracking and moderation. We see water conservation as a task that can be accomplished in a personal or group setting. Our vision includes a residential-based system, in which both individuals and groups can view progress and consumption. Ideally, our application would encompass a comprehensive monitoring and tracking home/residential system.

- What's the relationship between customer and data?

Every individual uses water, but few actually monitor or analyze their usage. Besides getting a bill at the end of month, many people don't stop to think about how much water they use or how much it costs (which is, admittedly, not very much). From this fact, it is easy to see why many people have adopted the viewpoint that saving a few gallons won't really make a dent in resource consumption. This is one reason why we want to create a relationship between customers and their data!

- What other tools do the customers have?

Currently, a decent number of water-tracking apps are available for mobile and web platforms. However, these apps and websites are riddled with inconveniences. First, customers have to manually enter their own usage data. Second, these platforms require user's initiative to check; frankly, even initial fervor for the campaign will fizzle out and the app will be forgotten. Third, since we have learned that many people don't have a serious enough incentive to save, we can conclude that there is, then, not enough incentive to use these apps.

Another tool available to some customers is their utility bill. This allows users to see their consumption and, if bills are saved, trends over time.

But this tool excludes a large fraction of the population, including kids whose parents take care of the bills and dorm-residing college students whose institutions usually cover utility costs.

- How do users communicate with each other?
  - Currently, any awareness of water use is usually kept to oneself. We want to break that cycle! With our competition feature, as well as the ability to share stats, tips, and other information with other users, we hope to encourage users to open channels of dialogue with others about water.
- How often are the tasks performed?
  - multiple times daily
- What are the time constraints on the task?
  - The great thing about the tasks we envision our application enabling is that there are no time constraints! Users can check in with the app as frequently as they wish, and through a wall display or watch/phone notification, they won't be out of the loop long if they do perhaps forget to check. Water monitoring can be as active or passive as users wish, and can be completed anytime.
- What happens when things go wrong?

Egregious misuse of water has larger-scale implications than just having a brown lawn or an outrageous bill; using Earth's resources is never without consequence. High water usage by certain individuals or areas translates to a high bill, as well as a shortage of available water for other people and places. Within the app, bad usage habits will result in less-than-ideal graphs (which users may have allowed friends to see, so hopefully all graphs will be positive!)

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**(everything below this line is extra research/information that likely won't be in our final report)**

Matt, First Interview:

Shower Questions:

1. How long do you think you spent in the shower? (6 min 21 sec)
  - a. 10 minutes - average time
2. Shower routine:
  - a. go in take off clothes, turn on water and wait until its warm, step in and wait for a while, wash hair, shampoo, rinse, put on face and body wash, put that on, and then this while the waters running, stand there a little more and then turn it off.
3. When and why did you choose to turn off the water?
  - a. when I feel like I'm done. I feel like its about the same time every time. unless i'm in a rush. water conservatino == very minor part.
4. How much water do you think you used?
  - a. 5 gallons
5. In comparison to other people, do you think you shower in average, below average, or above average time? How do you feel about that?
  - a. below average. because I'm not a girl, and also because in general like doing things quick.
6. Do you think showering is the biggest source of your water usage?
  - a. Please rank your top 5 uses of water going from high to low
    - i. 1: Shower
    - ii. 2: Flushing Toilets
    - iii. 3: drinking
    - iv. 4: washing clothes
    - v. 5: washing hands
7. How much do you pay attention to the amount of water you use on a daily basis?
  - a. Some. I don't leave the sink running when I brush my teeth? I don't go out of my way to conserve water, but I don't do things that waste water. All the water I use is actually used. I don't just stand in the shower and just stand there for a long time. I never just drink half a cup and pour it out.
8. How much water do you think you use on a daily basis?

- a. 12 gallons.
- 9. What would motivate you to reduce your shower time?
  - a. money
  - b. no, cause I don't have to pay it at home either.
  - c. If i was being supervised
  - d. I've heard about it, but haven't changed behavior. I feel like I use less water than someone on average anyway.
- 10. What makes it difficult for people to save water?
  - a. how easily accessible it is. You can just turn on the sink and have water and no one's gonna do anything if you just leave the sink on for 24 hours.
  - b. Ease of access - inability to monitor the amount of water that people use.
  - c. No cost.
  - d. Probably undervalue the water they use. Underestimate.

**Nico interviews Alex R.**

- 1. No, crosses mind, but does not quantify. does not set number on how long to shower, brush hands teeth etc.
- 2. Lazy, too much work.
- 3. 10-15minutes.
- 4. in shower, but runs water before getting under water. keeps running the whole time.
- 5. 5-10 gallons/minute, so ca. 75 gallons.
- 6. shower, biggest source. 2. agriculture 3. dishwasher 4. sink/cosmetic stuff 5. toilet
- 7. not really. theres an earthquake.
- 8. habits are similar.
- 9. an app lol, government prize (tax break) and a cookie.
- 10. turns off all the way.
- 11. my peers at stanford are at the lower end. more conscientious. at home, no one cares. parents do not care too much. friends do not talk about it.
- 12. feels like he needs to do better, state of california. other concerns in life, if 2 min extra shower will calm down, he will do that.
- 13. shave after the shower. shampoo every time.

**Write-up of Nico's Interview** (If I understand correctly, this can mostly be cannibalized for the contextual inquiry results):

The interviewee is definitely interested in the idea of conserving water, but does not actively engage in it because the right incentives are lacking. There is almost no financial benefit as water is so cheap. This effect is compounded by the lacking accountability, meaning that there is no way of recording and viewing the water usage of others. He says that if there were incentives in the form of tax breaks (for example), he would be much more willing to conserve water. Tracking water usage is also too much of a headache. Even though the interviewee is good at judging how much water his shower used, he is not willing to actively time his showers.

The interviewee said that he spends 10-15 minutes in the shower. He admits that this is a long time, but he enjoys showering. He says that he is aware of the problems associated with excessive showering, but if he can reduce his stress levels by showering for a bit longer, it's worth it. He does not shave in the shower, but washes his hair every time. He does not turn the shower off during the lathering process. When he is finished, he closes the faucet all the way. This behavior stays the same no matter whether he is at school or at home.

He thinks that his showering is his greatest source of water usage. Agriculture / food production only comes in second, before the dishwasher, sink / cosmetic activity and lastly toilet. This is interesting because domestic water use accounts for only 15% of total use in the US, compared to agriculture's 45%. Educating people about food that is particularly water intensive to produce might be an effective way of promoting good habits. This could be a secondary educational goal of the app.

People are much more conscientious about water use at Stanford. At home (in LA), people don't really talk about it (more so now with the drought).

Veronica, first interview. Brian T  
observation: shower

- time: 6:54, let it run first (30sec)
- questions:
  - How much water do you think you used? 40 gallons
  - How long do you think you spent in the shower? 8 mins

- is shower your biggest source of water usage? yes
  - rank your use (within the house): showering, laundry, flushing/washing hands, drinking, washing face
- are there any cases where you turn off the water during the shower? no
- are your habits similar here as they are to your habits at home? yes
- what would motivate you to change shower speed? personal rewards system. it would take a lot. hearing facts don't change routine. it would take something on the personal level to change routine
- are you sure you turn the faucet all the way off (prevent drips/leaks)? yes
- how is your water use relative to peers/rank yourself? thinks he uses less
  - how do you feel about it? neutral. average amount.
    - guilty? when i shave in the shower, because basically doubles shower time
- full shower every time? (shampoo, shaving). full shower 20% of time (shaving, only extension)
- always lets the water run before getting in

#### Additional Research/info/stuff

#### Jane's interview:

- run water entire time while washing dishes
- chicken washing – 1:17 min
- don't pay for water
- prices have increased here because of drought
- expensive garden – want to ensure they take care of garden, therefore landlord pays for water
- washing hands, water runs while using soap – 20 sec
- frequent hand washing – priority is to keep kitchen/food clean, esp when using meat, need to wash a lot with soap
- reused pan without washing in between
- turned off water while soaping dish, but because felt self-conscious: estimated 30 sec washing, but was 1:20 min
- drinking water – better at estimating amount
- bottled water – because free from facebook
- didn't use individual bowls, saved dishes to wash

-don't ever use dishwasher, not enough dishes to warrant use

### **Initial Brainstorming/Research**

- water waste comes in many forms
  - many products that are water-intensive to manufacture
  - throwing away meat >> 5-hour shower
    - relatively, shaving off 1 minute of shower is insignificant
    - <http://water.usgs.gov/edu/qa-home-percapita.html>
- domestic use comprises only 14% to agriculture's 41% of total US water use.
- toothbrush buzzes after 2min
  - some connection to alerting about water
- dishwasher vs washing by hand
  - at some point, dishwasher is more efficient, right?
- people who save could trade to people who use more
- [http://dub.washington.edu/djangosite/media/papers/Froehlich\\_TheDesignAndEvaluationOfPrototypeEcoFeedbackDisplaysForWater\\_CHI2012.pdf](http://dub.washington.edu/djangosite/media/papers/Froehlich_TheDesignAndEvaluationOfPrototypeEcoFeedbackDisplaysForWater_CHI2012.pdf)

### **“Brainstorm different high-level application/intervention/product ideas based on results of interviews. Generate many ideas”**

- app that shows your friends “wasting water”
- educational app
  - requires user's initiative to check
  - fact of the day about water usage
- intervention implementation
  - monitor on the fridge?
    - visual: easy to see performance at-a-glance
    - implementation: web page
    - grow a tree, scene to see
    - more things to design, mess with
      - phone size is restrictive
        - but still allow phone access
  - Bluetooth sensors
    - pick up which device is closest
      - rather than popup (might be annoying)
      - what if two people are next to the sink?
- application that advises shower designers
  - what would get people to turn off the water while they soap up?
  - how can they minimize customer water use?
- any application of ours need good visual aspects

- popups when you use water
- graphs
  - email to yourself (tablet?)
- government paying people to take water-saving measures...could we use:
  - rewards system
  - rebate system
- Make a water-saving GAME
  - incentives
  - show more as you did well
  - dorm competition
  - target: family
    - graphs show each user's use
    - loser does chores when visual column fills
- Visual (real) Aquarium feedback application
  - if you use a lot of water, tank level goes down
    - might be backwards...tank uses water
- system/app for users to set daily goal
  - advises you how to stay on track with the rest of the day's activities
    - somehow make you stay on track
    - concrete suggestions
- ticker of how much the water costs
- link to developing country's water provisions
  - saved this much money = help in developing country
    - something to bring up emotion
      - happy images when you're doing well
      - sad/motivating images when you're wasting
    - induce guilt
- could we implement a design that could tell you when to turn off the water?
  - or "smart" appliances in house (faucet, watch)
    - comprehensive system
  - shower will give you less water

#### interviews

- what kind of info do we want?
  - do you evaluate your water use?
    - why/why not?
    - what stops/motivates you?
    - what are factors in your use?
  - observation: shower



- time
- observe whether they run water first, keep water running whole time
- questions:
  - How much water do you think you used?
  - How long do you think you spent in the shower?
  - is shower your biggest source of water usage?
    - if not, what is?
    - rank your use (within the house)
  - are there any cases where you turn off the water during the shower?
  - are your habits similar here as they are to your habits at home?
  - what would motivate you to change shower speed?
  - are you sure you turn the faucet all the way off (prevent drips/leaks)?
  - how is your water use relative to peers/rank yourself?
    - how do you feel about it?
      - guilty?
  - full shower every time? (shampoo, shaving)
- questions:
  - how in-tune user is to volume of water being used
  - what function uses most water in your day?
  - do you turn off water when you shampoo hair/brush teeth?
  - do you run the water to let it get hot before you get in?

Relevant points from Landay's paper:

- most past work has focused on energy, with water-based eco-feedback largely limited to sensing and feedback at the point-of-consumption (limited feedback on broader usage patterns)
- These systems have also disproportionately focused on faucet and shower usage, which account for only 22% of water use in the average North American home [29]
- visualization system—its understandability, its interactivity, its aesthetic
- elasticity or potential responsiveness of behaviors to feedback (some things can't be changed such as toilet flushing)
- Factors that correlate with usage include socioeconomic status, home and yard size, attitudes, beliefs, and motivations concerning water, and the occupant's understanding and awareness of water usage in the home [3,17,20].

- economic motivations are often cited in the electricity feedback literature (e.g., [4]), financial motives may be less significant for water because of its low-cost
  - Americans pay \$2.50 per 1,000 gallons (\$0.0025 per gallon)
- Finally, Kantola et al. [18] note that motivation may not translate to reduced consumption if the person does not possess the skills or knowledge to conserve water
- grouping: individual, fixture category, or activity
- time: day, week, month
- comparison: self, goal, social
- One limitation of this research is that the study populations in both the surveydemographic

Waterdrop doing limbo.

Dilution of responsibility. You only have a small impact and you know that the people around you are using a lot of water.

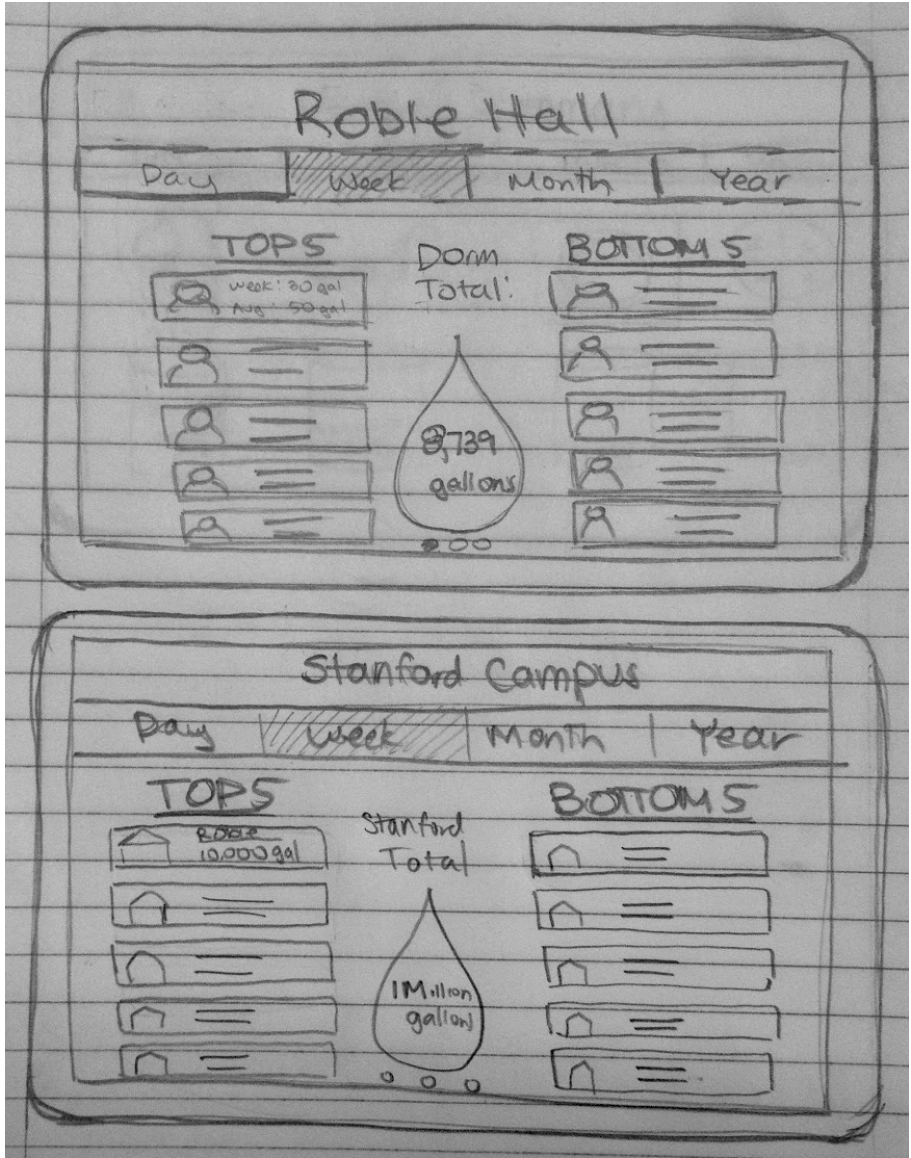
Nico - 650 847 8030

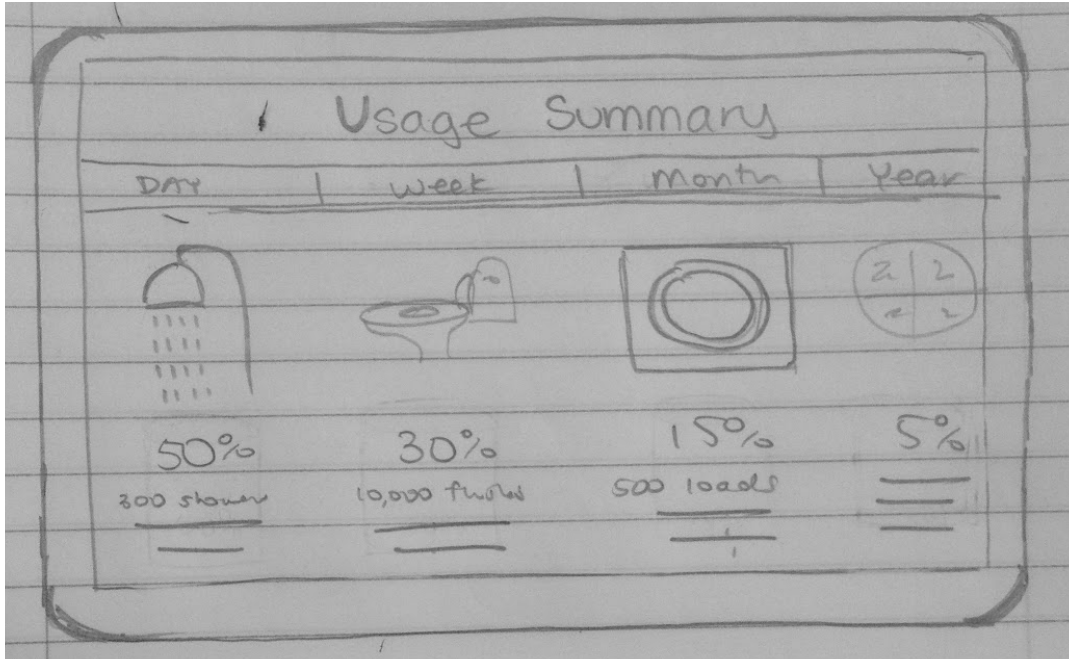
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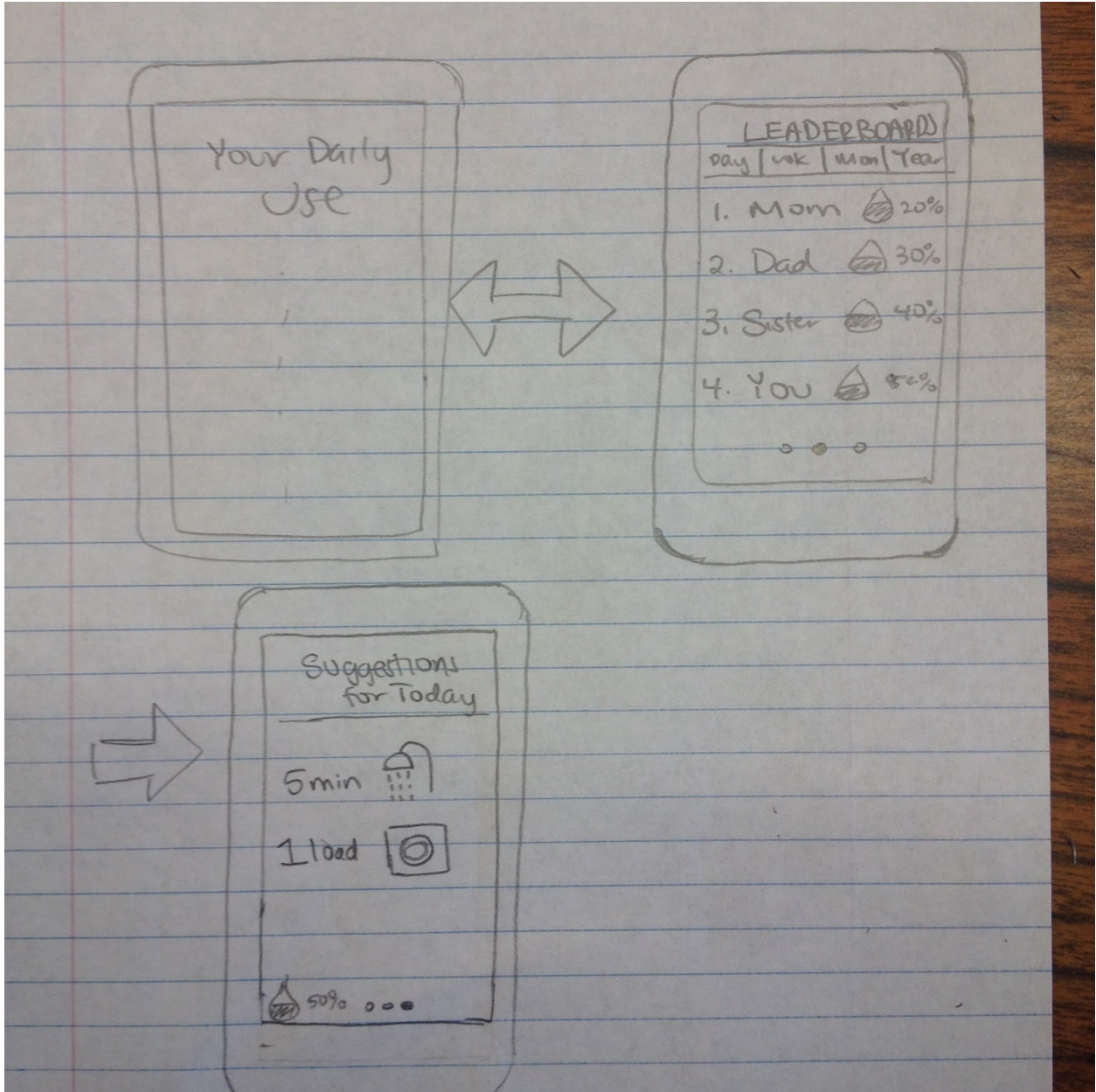
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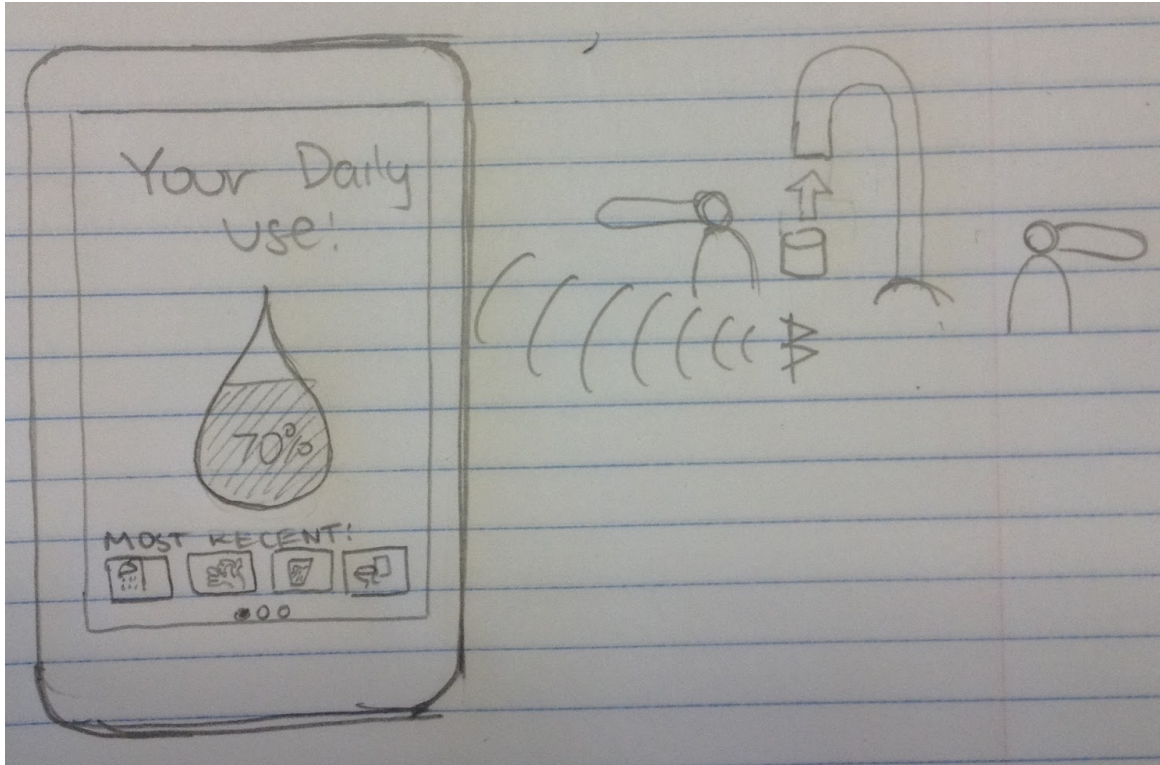
Matt - 510-406-8562

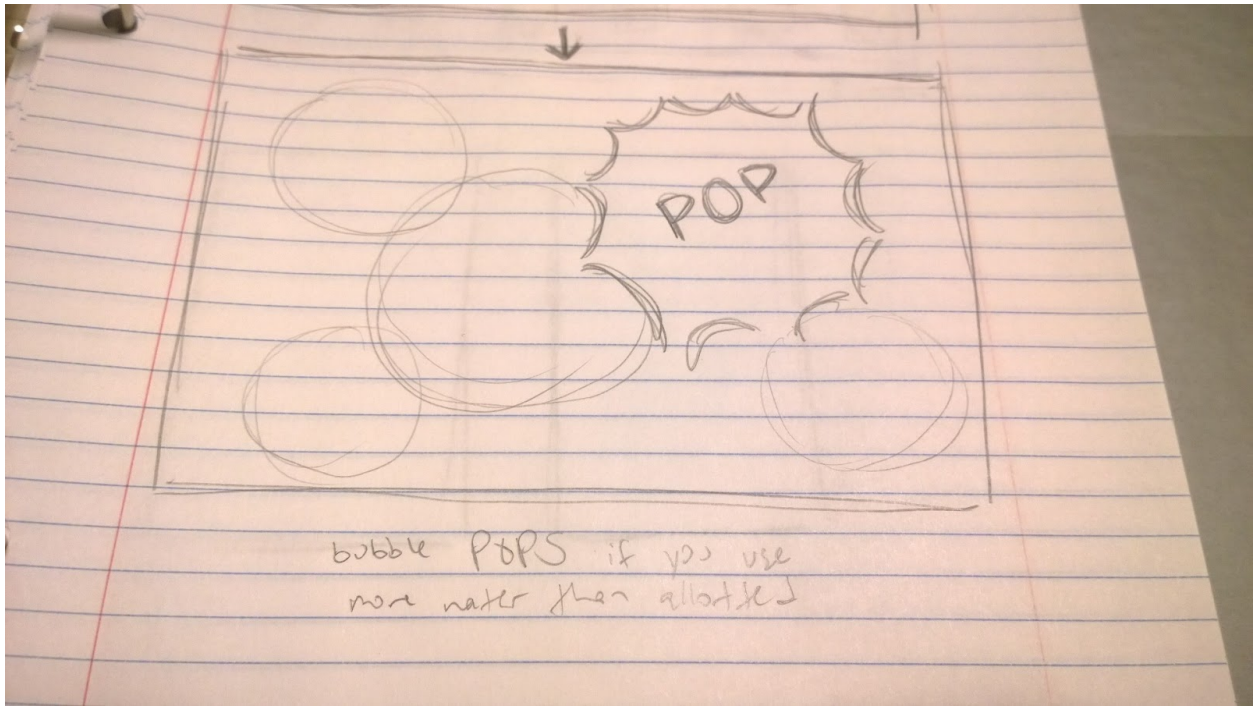
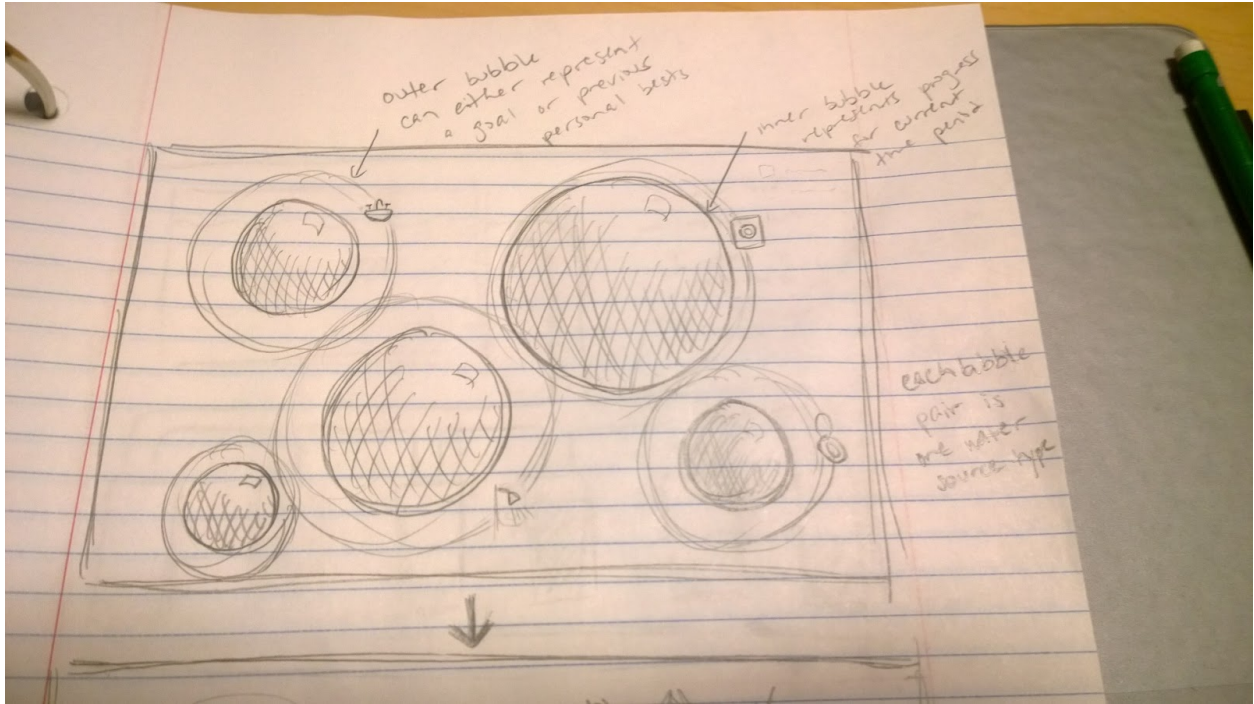
**Sketches:**

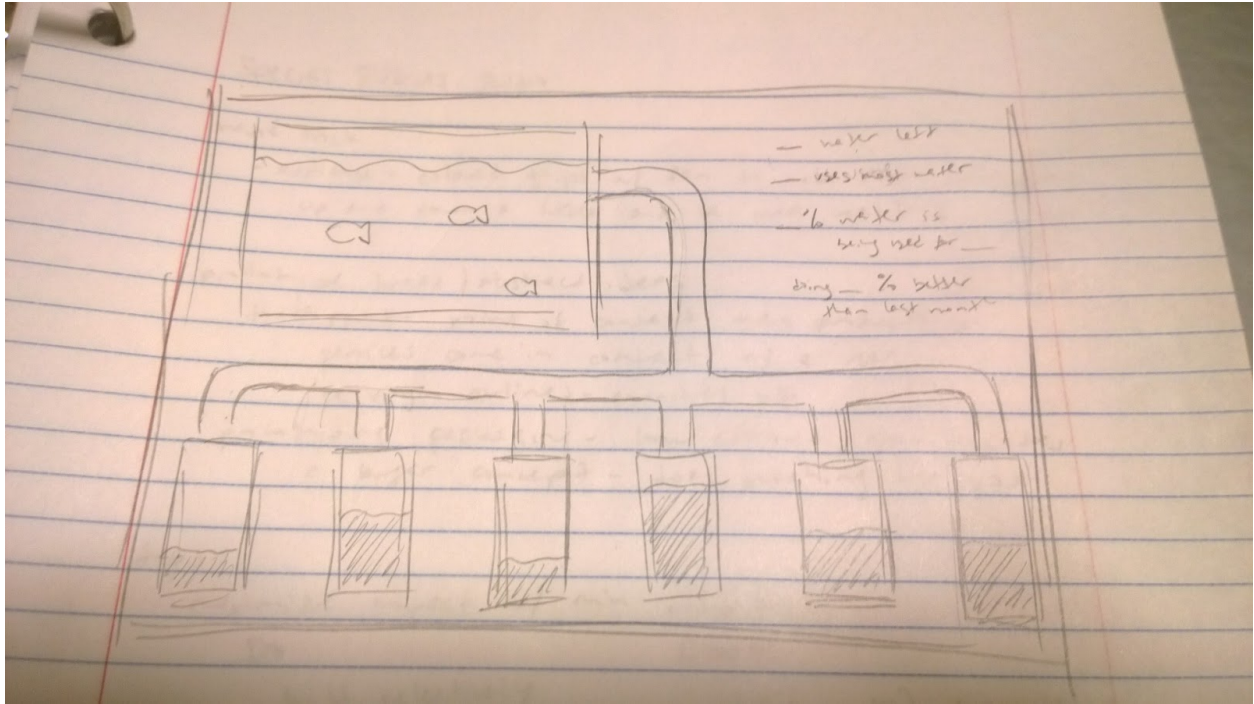




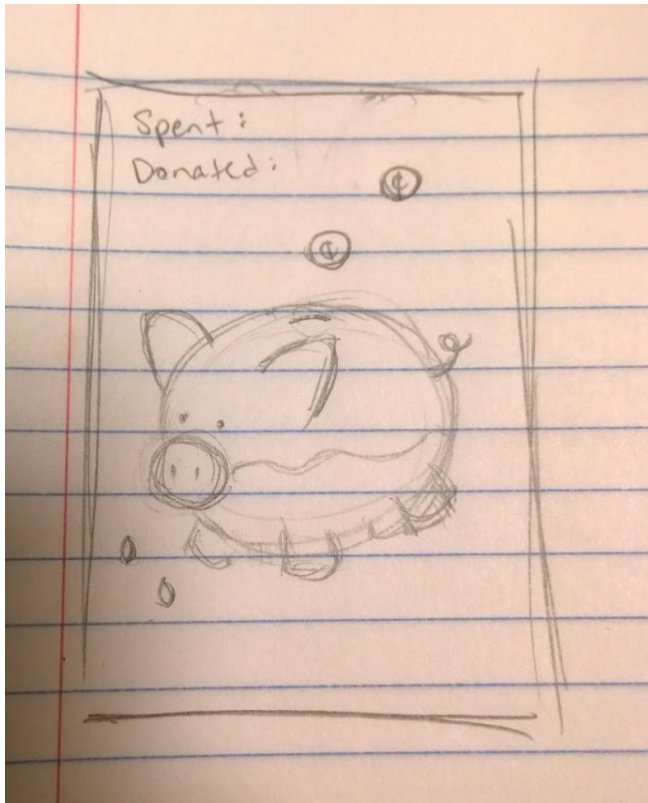
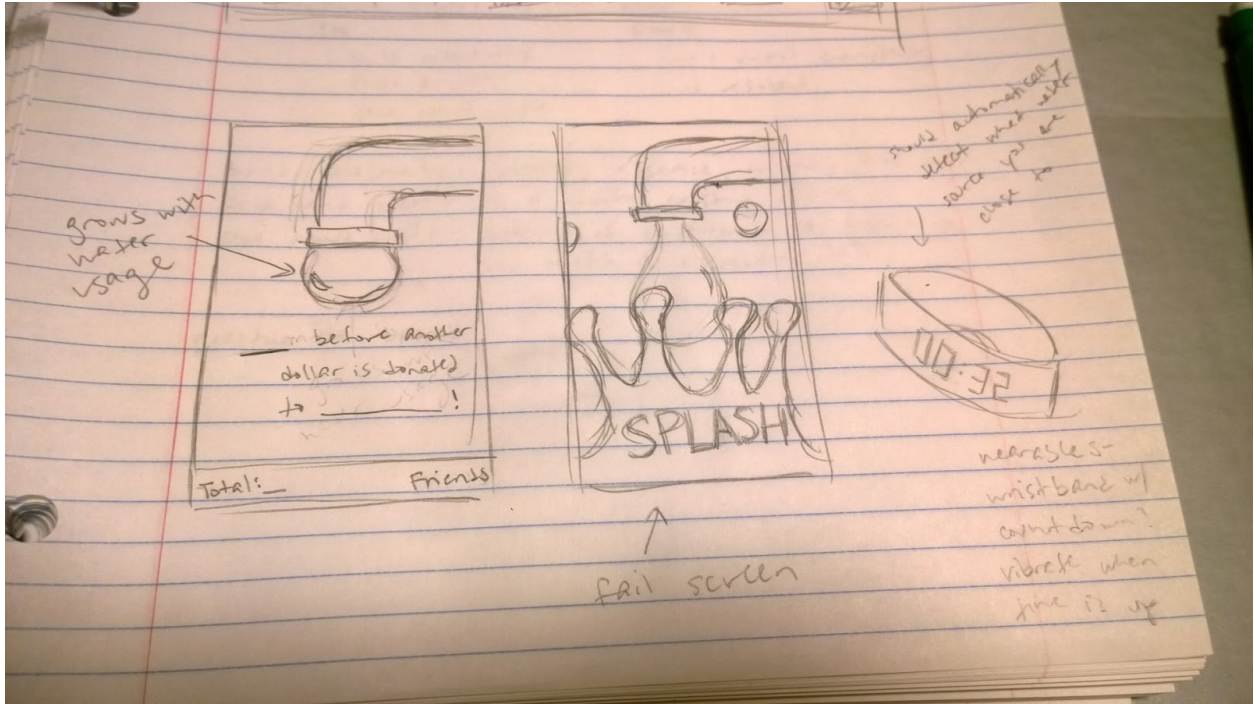




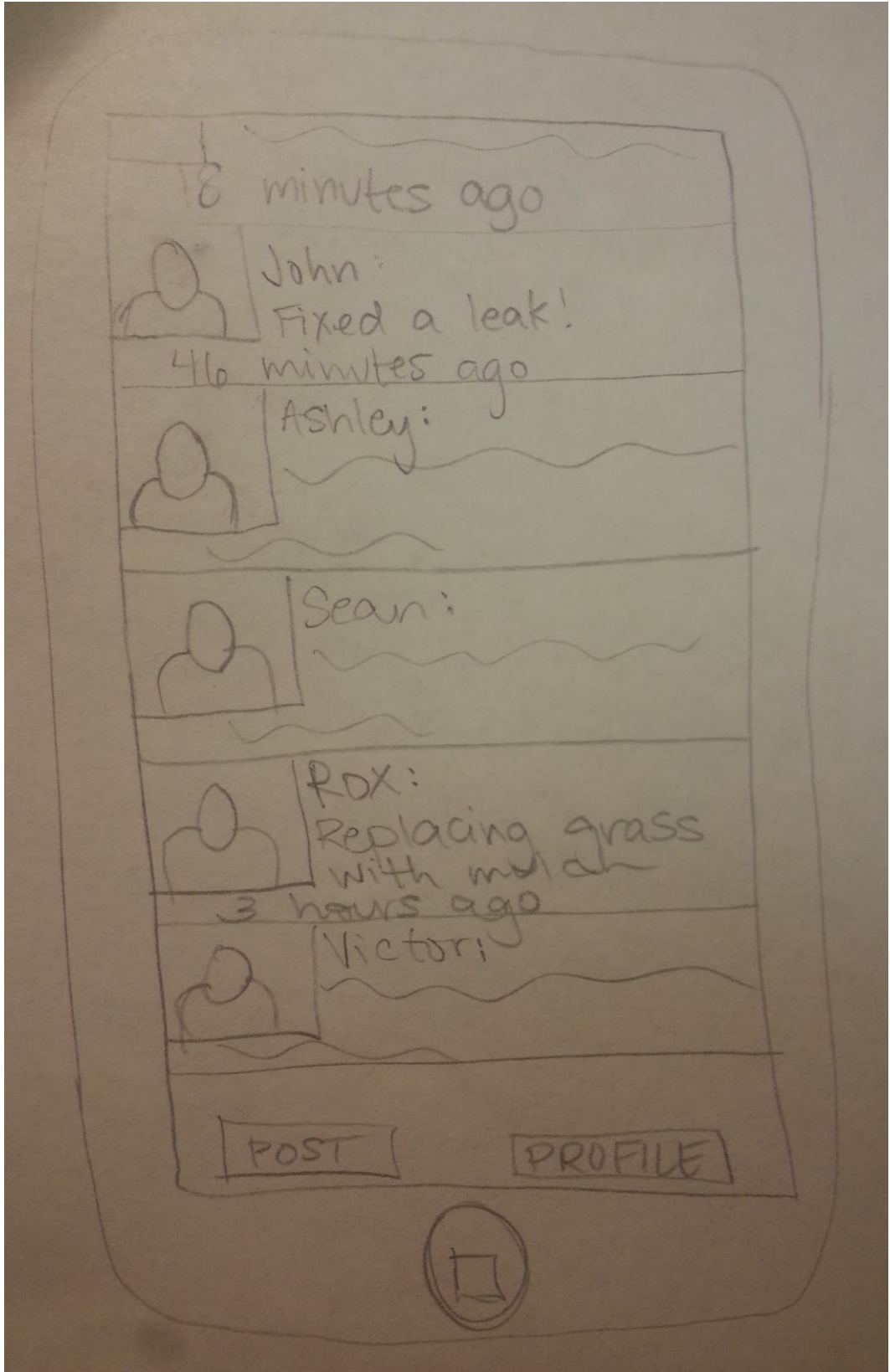






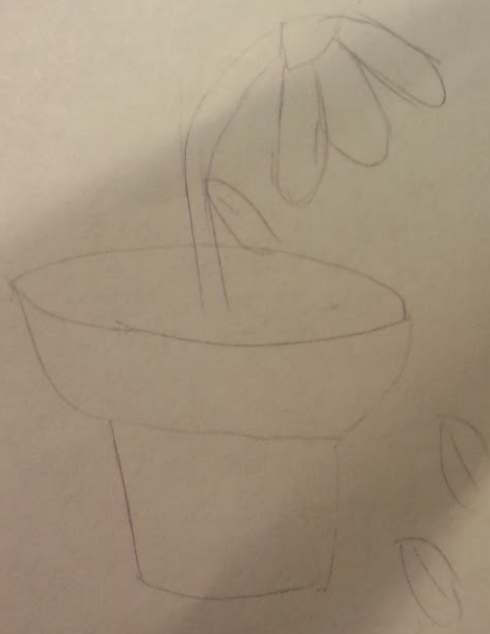






Your plant is WILTING

Save more water!



- shave 2-min off shower
- wash full loads only

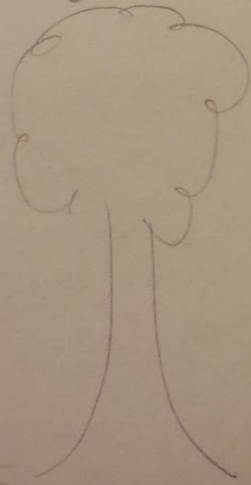
See usage

More tips

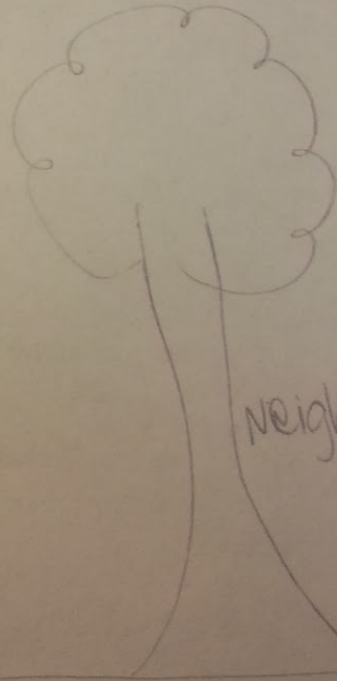
# Your Neighborhood

Time: this week ▼

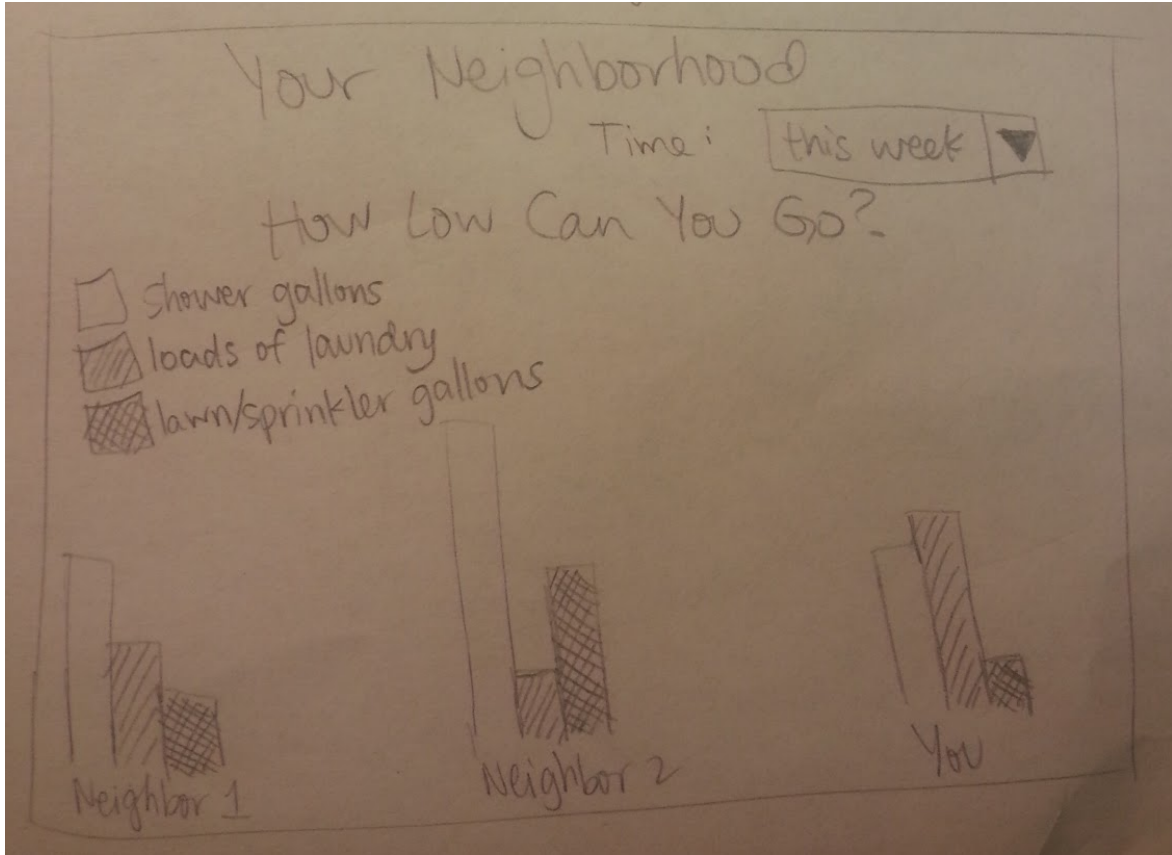
Neighbor 1



You



Neighbor 2



12/6/14

## Leaderboard

You: 7:36

Dad 5:18

Kyle 8:04

Mom 10:47

Almost done?!

Shower display